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Remarks

Applicant thanks the Examiner for the Written Office Action. In particular, Applicant thanks the Examiner for the new prior art reference of MIKULAS.

Drawings

With respect to the objection to the Drawings for failing to include the reference numerals "A", "B", and "C", Applicant states that the detailed illustration is not essential for a proper understanding of the invention, and therefore need not be included in the drawings. The angles of the figures that would correspond to the claimed numerals "A", "B", and "C" are illustrated in the drawing in the form of a graphical drawing symbol.

In particular, 37 C.F.R. §1.83(a) requires that "conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation ..." Further, MPEP §608.02(d) states that "[a]ny structural detail that is of sufficient importance to be described should be shown in the drawings," citing *Ex Parte Good*, 1911 C.D. 43, 164 O.G. 739 (Comm'r Pat. 1911).

The numerals "A", "B", and "C" need not be illustrated in detail for a proper understanding of the invention. One of ordinary skill in the art would know that a triangle has three vertices, each of which may be assigned a numeral such as "A", "B", or "C". Further, one of ordinary skill in the art would know from the specification and from Figure 2 to which of the vertices should be assigned the numerals "A", "B", and "C". One of ordinary skill in the art would be able to practice the invention without the

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labeling of which angles should be assigned the numerals "A", "B", and "C" in the Figures. Therefore, Applicant respectfully submits that the current drawings are in accordance with 37 C.F.R. §1.83(a), MPEP § 608.02(d), and *Ex Parte Good*, 1911 C.D. 43, 164 O.G. 739 (Comm'r Pat. 1911). Accordingly, Applicant respectfully traverses the objection to the drawings.

Double Patenting

With respect to the objection to claim 3 for double patenting, Applicant has amended claim 3.

Claim Rejections – 35 USC §103

Examiner rejected claims 1-24 under 35 USC §103(a) as being unpatentable over US Patent No. 4,604,844 to MIKULAS, Jr. *et al.* MPEP §2143 states that a *prima facie* case of obviousness exists only if all of the following three criteria are met: 1) there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, 2) there is a reasonable expectation of success, and 3) the prior art reference (or references when combined) teaches or suggests all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. Applicant respectfully traverses this rejection because at least one element of the only independent claim (1) is neither taught nor suggested by the MIKULAS patent.

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Claim 1 requires that the architectural system include "an extension engaging the triangular base and comprising a fourth complete strut substantially aligned along a forth axis that forms a substantially acute angle $>3^{\circ}$ with the base plane. Thus the fourth strut is *not coplanar* with the base plane that includes struts AB, BC, and AC. The MIKULAS patent discloses a multi-strut system, but all of the struts in the system are coplanar.

Examiner admits that this element is not taught when stating that "MIKULAS, Jr. et al. discloses the basic claimed structure *except for* explicitly detailing the exact dimensions of the angles forming the base triangle *or the angle of the fourth strut.*" (emphasis added). Examiner then states that "although MIKULAS Jr. et al. does not detail explicit angles that form the base triangle, it would have been obvious to one having ordinary skill...to select an angle dimension suitable for the use intended as an obvious matter of design choice." Examiner does not state, however, that the angle *between the fourth axis and the base plane* would have been obvious. As a result, Examiner has not produced a *prima facie* case of obviousness.

Examiner must then rely on another theory to support a rejection based in obviousness. Examiner states that the angle between the fourth axis and the first axis is simply a design choice. Applicant respectfully traverses this assertion by Examiner. The angle between the fourth axis and the base plane is a *functional* choice because it modifies the utility of the invention. MPEP §2144.04 VI C states that "[t]he mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device."

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Examiner has not pointed to any teaching or suggestion in the MIKULAS patent that the fourth axis is non-coplanar with the base plane.

MPEP §2144.04 VI C, Rearrangement of Parts, discloses a case (*In re Japikse*) wherein an application was held unpatentable because the placement of a part did *not* modify the operation of the invention. In the present invention, however, the angle between the fourth axis and the base plane *does* modify the operation of the invention. The functionality of the angle between the fourth axis and the first axis arises from the fact that the architectural structure extends into three dimensions. The embodiments of the present invention only extend into three dimensions if the angle between the fourth axis and the base plane is chosen according to the present invention, that is, the angle between the base plane and the fourth axis is "a substantially acute angle $>3^\circ$ with the base plane." Claim 1. However, if the fourth axis were coplanar with the base plane, the resulting architectural structure may only extend in two dimensions, such as the truss disclosed in the MIKULAS patent.

In re Chu also establishes the requirement that for an element to be an obvious design choice, there must be some teaching or suggestion in the prior art that would lead one of ordinary skill in the art to modify the art and arrive at the invention. 66 F.3d 292 (Fed. Cir. 1995). As discussed above, there is neither teaching nor suggestion in the MIKULAS patent that the fourth axis and the base plane be anything other than coplanar.

In making the *In re Chu* decision, the Federal Circuit interpreted the *In re Gal* case to conclude that "finding of 'obvious design choice' [is] precluded where the claimed structure and the function it performs are different from the prior art." 980 F.2d 717 (Fed. Cir. 1992). The structure of the present invention extends in three dimensions

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where the structure of the MIKULAS patent extends only in two dimensions. A function of the fourth axis of the present invention is to allow the architectural structure to extend into three dimensions. This is different from the cited prior art, in that the function of the fourth axis (as illustrated by Examiner's markings of Figure 1) allows the truss to extend into only two dimensions.

As a result, Applicant argues that the angle between the fourth axis and the base plane is not an "obvious design choice" as that phrase is interpreted by the Court of Appeals for the Federal Circuit, or under the definition of obviousness under the MPEP. Applicant therefore argues that the present invention is patentable over the MIKULAS patent because the independent claim upon which all of the other claims depend includes an element that is neither taught nor suggested by the MIKULAS patent.

Claim 1 Amendment

Claim 1 has been amended to remove the word "acute" from the second base angle ABC. "Acute" was added to Claim 1 to overcome Examiner's rejection of Claim 1 as anticipated by Nelson in an office action of 15 September 2004. Applicant argues that Claim 1 is not anticipated by Nelson in light of a subsequent amendment to the claim not taught by Nelson.


The element not taught by Nelson is that the "second and third axes forming a third acute base angle BCA, more than one of the struts each comprising at least two rigid pieces able to move apart so as to produce a strut elongation." Because Nelson does not teach this limitation of the present Claim 1, Applicant argues that Claim 1 cannot be anticipated by the Nelson reference.

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Conclusion

For these reasons, it is believed that none of the prior art teaches the claimed invention. Furthermore, it is believed that the foregoing amendment has adequate support in the specification, and accordingly there should be no new matter. Applicant believes the pending claims have addressed each of the issues pointed out by the Examiner in the Office Action. In light of the foregoing amendment, the claims should be in a condition for allowance. Should the Examiner wish to discuss any of the proposed changes, Applicant again invites the Examiner to do so by telephone conference.

Respectfully Submitted,



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